ProjectID	1361
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Sub_Program	Environment
Project Title	A Comprehensive Development Plan for a Multimodal Noise and Emissions Model

Abstract

The social, environmental, and economic effects of noise, emissions, congestion, and delays from aircraft, highways, and rail are typically evaluated and mitigated separately. This fragmented approach can lead to incomplete environmental analyses and, as a result, inefficient expenditure of public funds. Environmental effects could be more thoroughly evaluated if a multi-modal analysis model existed. For example, multimodal analysis could reveal whether a transit-rail line built next to an existing highway leading to an airport would result in an increase or decrease in noise and emissions. This model could also facilitate a comparative cost and economic impact analysis of alternatives and mitigation strategies. Although there are analytical models available to measure noise and emissions, the ability to apply these models in an integrated fashion across transportation modes does not exist; the ability to link impact measures with economic effects in a consistent manner is, at best, limited. As an initial phase in addressing this problem, research is necessary to (1) determine the feasibility of building an integrated multimodal model that meets the needs of the numerous agencies and institutions involved and (2) define the process required to develop that model. A multimodal transportation noise and emissions model would help to inform airport operators and policymakers charged with making decisions. The proposed model would facilitate an integrated assessment of noise and air quality impacts from combinations of transportation modes, assess the total costs and impacts, and assist in the design of mitigation strategies. This model would also provide decision makers with information to make more efficient use of federal, state, and

	local funds. The objective of this research is to produce a comprehensive Model Development Plan (MDP) that will guide future development (by others) of a model to facilitate integrated quantification of multimodal noise and emissions, as well as economic analysis of alternative scenarios. The model that will result from implementing the MDP will consist of an analytical tool or set of tools in the form of (a) a "super" model (i.e., a single, inclusive model designed to address all desired components); (b) a tool that combines inputs and/or outputs of existing or new models; or (c) an alternative approach. Modes to consider should include aviation, rail, transit, maritime, and roadways. This research will define the process required to create this model, but will not result in the actual development of the model. The tasks included in this research will determine the feasibility of an integrated approach to quantification of multimodal noise and emissions, the form that this model might take, and the process required to create the model. Actual development of the model will be considered in the future, as determined by the outcome of this research.
Project Link	http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=2102
Sponsor	FAA
Manager	Transportation Research Board
Manager Office/Address	The National Academies, 500 Fifth Street NW, Washington, DC 20001
Performer Organization	Wyle Laboratories, Inc
Performer_Address	El Segundo CA
Performer POC	Connor, Tom
ProjectStatus	Completed
Start_Date	07/07/2008
End_Date	10/29/2010

Project_Funding	200000.0
Links to Project Reports	http://www.trb.org/Main/Blurbs/164543.aspx

ProjectID	2347
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Project Title	A Guidebook for Addressing Aircraft/Wildlife Hazards at General Aviation Airports

Abstract

Aircraft collisions with wildlife are an increasing safety and economic concern for the U.S. aviation industry because of expanding populations of many wildlife species that are hazardous to aircraft (Dolbeer and Eschenfelder 2002). In 1995, the FAA, through an interagency agreement with the U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services Program (USDA/APHIS/WS; WS), initiated a project to obtain more objective estimates of the magnitude and nature of the national aircraft/wildlife collision problem for civil aviation. The FAA/WS effort involves having specialists from WS (1) review and edit all collision reports (FAA Form 5200-7, Birds/Other Wildlife Strike Report) received by the FAA since 1990; (2) enter all edited reports into a database, hereafter referred to as the FAA National Wildlife Strike Database; and (3) assist the FAA with the production of annual reports summarizing the results on a national basis of analyses of data from the database. Such analyses (see Cleary et al. 2006 for the latest report covering 66,392 records from 1990 through 2005) provide a foundation for national policies and guidance regarding integrated research and management efforts to reduce wildlife strikes at FAA Part 139certificated airports. However, these analyses have provided little information related to general aviation (GA) airports since very few of the submitted reports concern strikes at GA airports. The lack of reports of aircraft/wildlife collisions at GA airports may be attributed to persons at the airport being unfamiliar with the reporting mechanism, believing it is only necessary to report wildlife collisions at airports that have air carrier operations, or having a reluctance to highlight an existing or potential problem at

their airport. GA airports usually have fewer employees than air carrier airports. The vast majority of GA airports have no wildlife hazard mitigation programs in place. The advent of very light jets (VLJs) is expected to cause an increase in the number of aircraft/wildlife collisions since the VLJs are significantly quieter than the piston and turbine powered aircraft that currently operate at these airports. The decrease in engine noise provides less time for the wildlife to recognize the impending collision and take evasive action. VLJs carry less than 10 passengers and are expected to be used by air taxi and corporate operators in flights to and from GA airports. Managers of GA airports would benefit from a guidebook that could serve as a primer on aircraft/wildlife hazards. Such a guidebook could provide an explanation of the aircraft wildlife collision problem relative to the airport environs, explain why managers should be concerned, contain instructions on how to report a collision, and describe the various measures that can be taken to eliminate or reduce the risk of aircraft/wildlife collisions. The objective of this research is to develop a guidebook that managers of general aviation (GA) airports can use to identify, understand, and mitigate wildlife hazards to aircraft in the airport environs. This guidebook is intended to provide a primer for addressing wildlife hazards but is not intended to fulfill Part 139 certification requirements regarding wildlife. The guidebook should be accompanied by a brief reference guide and outreach materials for aircraft/wildlife hazards at GA airports.

Project Link	http://www.trb.org/TRBNet/ProjectDisplay.asp?ProjectID=2107

Sponsor	FAA
Manager	Transportation Research Board
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Performer Organization	Biozone Incorporated
Performer POC	Archie M. Dickey
ProjectStatus	Completed
Start_Date	02/06/2008
End_Date	12/01/2009
Project_Funding	299905.0
Links to Project Reports	http://onlinepubs.trb.org/onlinepubs/acrp/acrp_rpt_032.pdf

ProjectID	1363
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Sub_Program	Safety
Project Title	A Guidebook for Airport Safety Management Systems

Abstract

An airport safety management system (SMS) provides a systematic, proactive approach to reducing the risk and severity of aircraft accidents/incidents on the airfield. ICAO has adopted a standard for SMS that has been applicable to international airports since November 2005. The FAA has developed guidance on SMS implementation in the United States and is planning to issue a Notice of Proposed Rulemaking.

Airport operators in the United States have safety programs in place that have resulted in todays high level of aviation safety. These programs can form the basis of a more comprehensive SMS. The SMS will supplement these programs by providing a systematic, proactive approach that includes (a) documenting identified hazards and their mitigation; (b) monitoring and measuring the ongoing safety experience of the airport; (c) establishing a voluntary non-punitive safety reporting system that can be used by employees of the airport operator, airlines, and tenants; and (d) improving the entire airports safety culture. A key component of an SMS is safety risk management that considers the probabilities of occurrence of an accident/incident and the severity or consequences of that accident/incident.

A guidebook will be timely and useful to airports in developing and implementing a safety management system consistent with guidance that results from the FAA rulemaking process. The SMS guidebook should describe the associated concepts, methodologies, processes, tools, and safety performance measurements that can be applied by airports based on their level of operations and complexity.

	The objective of this research is to create a guidebook for developing and implementing airport safety management systems (SMS). The guidebook must be applicable to all airports that have certificates issued under 14 Code of Federal Regulations (CFR) Part 139, Certification of Airports, and should consider variations in operations and complexities at these airports. (See Special Note A.)
Project Link	http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=148
Sponsor	FAA
Manager	Transportation Research Board
Manager Office/Address	The National Academies, 500 Fifth Street NW, Washington, DC 20001
Performer Organization	Applied Research Associates, Inc.
Performer_Address	505 W University Avenue Champaign IL 61820
Performer POC	Ayres, Manuel
ProjectStatus	Completed
Start_Date	05/24/2007
End_Date	03/31/2009
Project_Funding	300000.0
Links to Project Reports	http://onlinepubs.trb.org/onlinepubs/acrp/acrp_rpt_001b.pdf
ProjectID	1364
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Sub_Program	Environment
Project Title	A Guidebook for Improving Environmental Performance at Small Airports

Abstract	Small airports have limited resources and staffing and, as a result, these airports usually do not have an environmental practitioner on staff who is intimately knowledgeable in the environmental arena. No one resource is available to airport managers (or their governing boards) that outlines all the federal environmental regulations. In addition, practices that exceed requirements and promote environmental stewardship, sometimes referred to as "sustainable practices," are also not familiar to small airports. Airports and their governing boards are committed to being good neighbors, enhancing their environmental efforts, and increasing public awareness of those initiatives. Given that every airport is unique, each airport must select, prioritize, and implement practices based on individual circumstances. Research is needed to provide small airports with information and guidance on potential environmental initiatives applicable to their situations. The objective of this research is to provide managers of small airports with a guidebook (1) promoting environmental awareness, (2) identifying federal environmental compliance requirements, (3) outlining those best management practices that proactively enhance environmental stewardship, and (4) identifying resources/tools that airports can use to be proactive. The guidebook should be written so that a non-environmental practitioner can easily understand it.
Project Link	http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=2576
Sponsor	FAA
Manager	Transportation Research Board
Manager Office/Address	The National Academies, 500 Fifth Street NW, Washington, DC 20001

Performer Organization	Gresham, Smith and Partners
Performer POC	McGormley, Rob
ProjectStatus	Completed
Start_Date	06/16/2009
End_Date	08/20/2010
Project_Funding	200000.0
Links to Project Reports	http://www.trb.org/Publications/Blurbs/Guidebook_of_Practices_for_Improving_Environmental_164885.aspx; http://onlinepubs.trb.org/onlinepubs/acrp/acrp_syn_020.pdf

ProjectID	1365
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Sub_Program	Policy and Planning
Project Title	A Guidebook for Measuring Performance of Automated People Mover Systems at Airports

Abstract

An automated people mover (APM) is a transportation system with fully automated operations, featuring vehicles on guideways with exclusive right of way. About 30 APM systems are operating at airports worldwide; roughly one-half of these systems are at U.S. airports. APM systems are implemented at airports to facilitate passenger and employee movement, generally within the confines of the airport. They typically operate from passenger check-in areas to airplane gates and between gates, allowing more people to move more quickly over longer distances, connecting large, often dispersed airline terminals. More recently, APM systems have been designed to connect airport terminals with parking facilities, car rental services, regional transportation services, hotels, and other related employment and activity centers.

APMs are vital to the operation of many airports, in that they provide the fastest and sometimes the only means to travel within an airport. Serious problems arise for APM passengers and for an entire airport when an airport APM system does not operate well or stops entirely. Operators of APMs at airports routinely collect data and develop performance measures to monitor and manage their performance. These measures typically address service availability, service reliability, cost, and operation and maintenance contract compliance.

Operators of APM systems at airports would like to make meaningful comparisons of their performance with that of APMs at other airports to assess and improve their performance. A key challenge to conducting meaningful comparisons is that no two airport APM systems are identical. For example, the

	systems have different sizes, configurations, technologies, maintenance provisions, ages, and operating environments. In addition, performance comparisons must be based on comparable performance measures using comparable data. Currently, there are no performance measures or data-collection practices common to all airport APMs, and research is needed to develop meaningful tools for measuring and comparing performance. The objective of this research is to develop a user-friendly guidebook for measuring performance of automated people mover (APM) systems at airports. The guidebook should identify a set of performance measures and associated data requirements for APM operators at airports to assess and improve performance, compare APM systems, and plan and design future APM systems. The performance measures should address the efficiency, effectiveness, and quality of APM systems at airports, particularly focusing on impacts on APM passengers and on airport performance.
Project Link	http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=141
Sponsor	FAA
Manager	Transportation Research Board
Manager Office/Address	The National Academies, 500 Fifth Street NW, Washington, DC 20001
Manager POC	Goldstein, Lawrence
Performer Organization	Lea + Elliott
Performer POC	Gambla, Chris
ProjectStatus	Active
Start_Date	06/13/2007
End_Date	09/30/2011

Project_Funding	300000.0

ProjectID	1366
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Sub_Program	Policy and Planning
Project Title	A Guidebook for the Preservation of Public-Use Airports

Abstract

According to the Federal Aviation Administration, there are approximately 5200 public-use airports in the United States. Many of these public-use airports, particularly those that are privately-owned, are in danger of closure, typically to make land available for alternative uses such as residential or commercial development. This situation is especially true in the fringes around urban centers and other populated areas. This area is also where air access is needed the most. Once an airport is lost in these areas, the chances to rebuild a replacement airport are almost nonexistent. With very light jets now entering the marketplace, the need to preserve non-congested landing areas close to final destinations is even more critical. Usually the public-use airports that close are privately owned facilities. However, publicly owned airports can also be vulnerable. At the local level, there is often a lack of understanding of the value of the airport to the community. In some cases, the airport is considered a strain on community resources. The actual closure of an airport is usually the last step in a chain of events that occurs over several years. One of the keys to airport preservation is to take action early in the process when numerous options are still available. Parties (including state and local governments) seeking to preserve public-use airports have difficulty obtaining information about the options that are available to preserve the airport and to increase its economic viability. A guidebook would be helpful to provide current information on how to recognize and identify threats to help in preventing closures. The objective of this research is to develop a guidebook that describes the reasons why public-use airports close and identifies measures and strategies

	that can be taken to preserve public-use airports. An interactive tool will accompany the guidebook that allows a user to access information on specific circumstances pertaining to closures, preventive measures and strategies, and roles and responsibilities of parties that have a role in preventing the closure. This guidebook is intended to be used by state and local agencies, airport owners/operators, and advocacy groups in preserving public-use airports.
Project Link	http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=2103
Sponsor	FAA
Manager	Transportation Research Board
Manager Office/Address	The National Academies, 500 Fifth Street NW, Washington, DC 20001
Performer Organization	L. Robert Kimball & Associates
Performer POC	Thatcher, Thomas
ProjectStatus	Completed
Start_Date	06/23/2008
End_Date	01/15/2011
Project_Funding	447430.0
Links to Project Reports	http://onlinepubs.trb.org/onlinepubs/acrp/acrp_rpt_044.pdf

ProjectID	1367
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Sub_Program	Environment
Project Title	A Handbook for Addressing Water Resource Issues Affecting Airport Capacity Enhancement Planning

Abstract

As air travel evolves, many airports are faced with the need to enhance capacity; but planning for increased capacity often brings with it a challenge of balancing business concerns and environmental protection. Enhanced capacity can provide environmental benefits by helping to eliminate congestion in the air and on the ground. Implementing those capacity improvements, however, must be coupled with the need to address environmental issues, including potential water resource impacts. Failure to address possible water resource issues effectively and obtain necessary permits and approvals can result in project delays. There is a need to better understand the water resource issues that airports face and how these issues affect the timeliness of project approvals, real project costs, and implementation of proposed projects or programs. Simultaneous consideration of potential water resource constraints along with planning airport capacity enhancement projects will benefit the entire aviation system. Therefore, airport operators and planners need guidance in recognizing potential impacts that capacity enhancement activities may have on water resources. Although directed at water resource issues in particular, this guidance could also be useful in addressing other environmental concerns. The objective of this research is to prepare a handbook for airport operators and planners to (1) identify issues and requirements relating to water resources (including quality and quantity, wetlands, and groundwater) that may affect the environmental review process linked to airport capacity improvements; (2) describe potential effects of not adequately addressing these issues and requirements; and (3) develop strategies airports can employ to implement

	improvements in a timely and cost-effective manner while protecting water resources.
Project Link	http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=2574
Sponsor	FAA
Manager	Transportation Research Board
Manager Office/Address	The National Academies, 500 Fifth Street NW, Washington, DC 20001
Manager POC	Goldstein, Lawrence
Performer Organization	Gresham, Smith and Partners
Performer POC	Arendt, Tim
ProjectStatus	Active
Start_Date	05/11/2009
End_Date	06/10/2011
Project_Funding	150000.0
Links to Project Reports	http://onlinepubs.trb.org/onlinepubs/acrp/acrp_rpt_053.pdf

ProjectID	1368
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Sub_Program	Administration
Project Title	A Handbook for Developing, Implementing, and Overseeing Airport Capital Plans

Abstract

Airport capital improvements are dynamic and involve many elements, including phasing, financing, planning, design, and construction. Incorporating these various elements into a single plan, and then managing, overseeing, and communicating these multiple elements is a daunting task for airports and their interested stakeholders. Airport capital plans involve various stakeholders during their development, management, and oversight of the program. Capital plans change over time as projects move from planning to implementation, requiring updates to the scope, budget, financing, and schedule of those individual projects. Airport staff members from many different departments (e.g., planning, engineering, and finance), consultants, and outside agencies are involved in the project administration, each with their own set of priorities and responsibilities. The airlines and the FAA also have an interest in receiving timely and accurate information and have certain criteria that they are seeking when reviewing or evaluating the capital plan. It is not uncommon for roles and responsibilities to be misunderstood that inhibit effective communication. A collaborative business process that (1) describes all stakeholders and their respective roles, responsibilities, expectations, and information requirements and (2) identifies procedural steps is needed. This process can then be implemented at airports to facilitate communication among multiple stakeholders to ensure a successful capital plan. With many off-the-shelf or customizable software programs, capital plan information can be tracked overall or on an individual project basis. A defined process by which to best capture and communicate information used to administer the capital plan

	through a technological solution is also needed. This technological process is an important aspect of successfully maintaining the capital plan. This process is even more important once a project leaves the "planning" stage and enters the "implementation" stage. The objective of this research is to develop a handbook that identifies best management practices in all phases of development, management, financing, and oversight of airport capital plans and includes those elements, steps, and key milestones that are necessary to create a collaborative business process that ensures the consistent flow of information and maintains the capital plan. This includes reporting, updating, and tracking financial and individual project information and identifying the processes that facilitate communication between internal and external stakeholders (e.g., airlines, FAA, local and state officials). The handbook should also identify and translate the elements of the collaborative business process so that it can be incorporated into an information technology solution. This handbook will be developed for those individuals at an airport who have a responsibility in the development, financing, management, or oversight of the airport capital plan or who have information that is required to maintain and ensure the capital plan is current and up to date (e.g., project managers, CFOs, COOs, engineers). For the purposes of this project, an airport capital plan includes the capital improvement programs (i.e., individual projects) and the finance plan to support implementation.
Project Link	http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=2570
Sponsor	FAA
Manager	Transportation Research Board

Manager Office/Address	The National Academies, 500 Fifth Street NW, Washington, DC 20001
Performer Organization	HNTB Corporation
Performer_Address	10 South Broadway, Suite 400 Arlington VA 63102
Performer POC	Cullen, Laurie
ProjectStatus	Completed
Start_Date	07/10/2009
End_Date	12/27/2010
Project_Funding	400000.0
Links to Project Reports	http://www.trb.org/Main/Blurbs/165584.aspx

ProjectID	1369
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Sub_Program	Operations
Project Title	A Handbook to Assess Impacts of Constrained Airport Parking

Abstract

Revenues from public parking at an airport are typically a major source of non-airline income at an airport. However, many commercial service airports, particularly those in congested urban areas, do not have land area available to expand parking lots, and the cost of building parking structures is extremely expensive. The result is a demand for parking that exceeds the number of parking spaces available at the airport. This situation is further exacerbated by the fact that parking for persons employed at the airport requires a substantial number of parking spaces that are typically undervalued when compared with the revenue stream generated by public parking. However, these employees of the airport operator and its tenants, e.g., airlines and concessionaires, are vital to the operation of the airport so their need for access to the airport has to be accommodated. In addition to limited land area, constraints on airport parking are sometimes instituted to achieve other goals. For example, a Metropolitan Planning Organization or local government may adopt regulations limiting the number of allowed automobile parking spaces in an effort to reduce single-occupancy vehicle trips with the goals of reducing automobile emissions and encouraging the use of public transport. However, necdotal information indicates that when airport parking is constrained, most passengers will choose to be dropped off/picked up by a relative or friend, thereby doubling the number of vehicle trips to/from the airport. Without an accurate, complete, and documented understanding of this phenomenon, federal, state, and local government agencies--responding to concerns about greenhouse gas emissions or other issues--may unwittingly enact regulations limiting airport parking that may

	have the opposite effect to that desired. In large metropolitan areas where more than one airport offers airline service, the availability of parking may also affect the traveler's choice of airports. Little research has been conducted to verify or quantify how parking constraints affect airport access. Because of the lack of data in these areas, there is an increasing potential that policies and/or strategies could be established that not only will negatively affect airport revenues, but also have an adverse effect on airport roadway operations, air quality, and customer service. Research is needed to better understand the changes in airport customer and employee access patterns and travel behavior caused by constrained airport parking. Such research would be useful to airport operators, public agencies, and others in assessing the implications of proposed parking strategies in a constrained parking environment. The objective of this research is to develop a handbook that airport operators can use to assess the access impacts of constrained public and/or employee parking at airports. For airports where constrained parking exists or is expected, the handbook should also provide guidance on how to quantify the impacts of potential changes in airport customer and employee access resulting from strategies such as changes in parking rates, the provision of new or improved public or private transportation services, and the introduction of remote parking facilities. The handbook should allow airport operators to better understand, anticipate, and evaluate changes in airport parking strategies at airports where constrained parking exists or is expected.
Project Link	http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=2110

Sponsor	FAA
Manager	Transportation Research Board
Manager Office/Address	The National Academies, 500 Fifth Street NW, Washington, DC 20001
Performer Organization	Ricondo & Associates, Incorporated
Performer_Address	Miami FL
Performer POC	Jarvis, James
ProjectStatus	Completed
Start_Date	06/16/2008
End_Date	12/15/2009
Project_Funding	398563.0
Links to Project Reports	http://www.trb.org/ACRP/Blurbs/Handbook_to_Assess_the_Impacts_of_Constrained_Park_164238.aspx

ProjectID	1370
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Sub_Program	Administration
Project Title	A Primer for Information Technology Systems at Airports

Abstract

Many executive managers at airports do not fully understand how to place a value on information systems and technology. At the same time, information technology (IT) professionals have a difficult time communicating and justifying the business benefits of newer technologies to executive management. As a result, airports tend to lag behind private industry in the strategic use of technology to improve business operations and financial performance. In addition, airports sometimes experience problems such as cost overruns, under-performance, implementation delays, internal disputes, poor reliability, unanticipated collateral impacts, and failure to consider integration. A change is occurring in the business model at airports, where the airport is becoming a fully involved service provider in the daily operation of all airport activities, including tenant activities. Airports do not always know how to tailor information systems and technology to best support their operations and thereby increase the value they can offer their staff, tenants, and passengers. As such, guidance in this area would be helpful to airport staff.

The objective of this research is to develop an easy-to-read primer that speaks to two distinct audiences, the airports executive manager and the information technology (IT) professional, in order to facilitate mutual understanding of each others perspective of the fundamental considerations for IT at the airport. Fundamental considerations include functional architectural concepts, functional and strategic objectives, mutual and disparate expectations, total costs (i.e., life-cycle, acquisition, implementation, activation, operation, and maintenance), benefits, consequences, priorities, risks, and other

	relevant considerations. The primer will also (a) describe steps and approaches to acquire, implement, and maintain IT at the airport; (b) include a description of guiding technical principles; (c) present applicable standards and recommended practices (e.g., ACI, ICAO, ATA, IATA); (d) provide a list of considerations for making informed gono-go acquisition, implementation, and commissioning decisions; (e) describe different approaches for placing the IT function within the airport organization; (f) present and define relevant terminology; and (g) be scalable to large, medium, and small airports. The primer should be concise, creative, visual, and straightforward in its discussion of (a) the considerations that are important to the executive manager, (b) the considerations that are important to the IT professional, (c) what the executive manager would like the IT professional to understand, (d) what the IT professional would like the executive manager to understand, and (e) issues that are common to both perspectives.
Project Link	http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=2572
Sponsor	FAA
Manager	Transportation Research Board
Manager Office/Address	The National Academies, 500 Fifth Street NW, Washington, DC 20001
Manager POC	Salamone, Michael
Performer Organization	Faith Group, LLC
Performer POC	Purnell, John
ProjectStatus	Unavailable
Project_Funding	Unavailable
ProjectID	1923

Program	Energy and Environment
Program Abbreviated	E&E
Sub_Program	Fuels
Project Title	ACCRI Alt Fuel Emissions Scenario
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AEE, 800 Independence Ave SW, Washington DC
Manager POC	Lourdes Maurice/Mohan Gupta
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Manager POC - email	Lourdes.Maurice@faa.gov / Mohan.L.Gupta@faa.gov
Performer Organization	Volpe National Transportation Systems Center
Performer_Address	55 Broadway Cambridge, MA 02142
Performer POC	Clay Reherman
ProjectStatus	Active
Project_Funding	200000.0

ProjectID	1924
Program	Energy and Environment
Program Abbreviated	E&E
Sub_Program	Aviation Emissions
Project Title	ACCRI-Climate
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AEE, 800 Independence Ave SW, Washington DC
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Performer Organization	Volpe National Transportation Systems Center
Performer_Address	55 Broadway Cambridge, MA 02142
Performer POC	Clay Reherman
ProjectStatus	Active
Project_Funding	3380000.0

ProjectID	1646
Program	Centers of Excellence
Program Abbreviated	CoE
Sub_Program	Airliner Cabin Environment / Research in the Intermodal Transport Environment
Project Title	ACER Decontamination Tasks 2, 3
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AAM-5, Rm 900W, 800 Independence Ave, SW Washington DC 20591
Manager POC	Jean Watson
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Performer POC	Overfelt
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Performer POC - email	overfra@auburn.edu
ProjectStatus	Completed
Start_Date	05/20/2005
End_Date	08/31/2010
Project_Funding	3980289.0

ProjectID	2091
Program	Runway Incursion and Safety Portfolio Team
Program Abbreviated	Runway Inc./Safety
Project Title	ADS-B Integration with LCGS
Abstract	The ADS-B Integration effort extends the basic LCGS capability to provide ADS-B surveillance data fused with primary radar data from LCGS to the Controller Display Aid. Utilizing fused SMR and ADS-B data will provide a more accurate position of ground traffic to enhance the situational awareness on the surface. This test and evaluation program will measure the feasibility of each vendor systems capability to ingest ADS-B data and display properly. This will aid in the FAAs recommendation of which LCGS vendor system to endorse.
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	490 L'Enfant Plaza, S.W. Washington, DC 20024
Manager POC	Wes Timmons
Manager POC - phone	(202) 385-4800
Manager POC - email	wes.timmons@faa.gov
Performer Organization	AJP-671 Runway Incursion and Safety
Performer_Address	Orville Wright Bldg. (FOB10A) FAA National Headquarters 800 Independence Ave., SW Washington, DC 20591
Performer POC	Jonathan Standley
ProjectStatus	Active
End_Date	09/30/2011

Project_Funding	1600000.0

ProjectID	1925
Program	Energy and Environment
Program Abbreviated	E&E
Sub_Program	Aviation Emissions
Project Title	AEC Roadmap
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AEE, 800 Independence Ave SW, Washington DC
Manager POC	Lourdes Maurice/Mohan Gupta
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Manager POC - email	Lourdes.Maurice@faa.gov / Mohan.L.Gupta@faa.gov
Performer Organization	CSSI
ProjectStatus	Active
Project_Funding	252706.0

ProjectID	1926
Program	Energy and Environment
Program Abbreviated	E&E
Sub_Program	Aviation Environmental Design Tool
Project Title	AEDT Enhancements to cover study of local NAS
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AEE, 800 Independence Ave SW, Washington DC
Manager POC	Lourdes Maurice/Mohan Gupta
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Performer Organization	Volpe National Transportation Systems Center
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Performer POC	Clay Reherman
ProjectStatus	Active
Project_Funding	1125000.0

ProjectID	1930
Program	Energy and Environment
Program Abbreviated	E&E
Sub_Program	Aviation Environmental Design Tool
Project Title	AEDT Prototypes and Legacy Development
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AEE, 800 Independence Ave SW, Washington DC
Manager POC	Lourdes Maurice/Mohan Gupta
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Performer Organization	Metron
ProjectStatus	Active
Project_Funding	993869.0

ProjectID	1929
Program	Energy and Environment
Program Abbreviated	E&E
Sub_Program	Aviation Environmental Design Tool
Project Title	AEDT Prototypes and Legacy Development

Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AEE, 800 Independence Ave SW, Washington DC
Manager POC	Lourdes Maurice/Mohan Gupta
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Manager POC - email	Lourdes.Maurice@faa.gov / Mohan.L.Gupta@faa.gov
Performer Organization	Wyle
ProjectStatus	Completed
Project_Funding	2083770.0

ProjectID	1927
Program	Energy and Environment
Program Abbreviated	E&E
Sub_Program	Aviation Environmental Design Tool
Project Title	AEDT Prototypes and Legacy Development
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AEE, 800 Independence Ave SW, Washington DC
Manager POC	Lourdes Maurice/Mohan Gupta
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Manager POC - fax	202-267-5594
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Performer Organization	Volpe National Transportation Systems Center
Performer_Address	55 Broadway Cambridge, MA 02142
Performer POC	Clay Reherman
ProjectStatus	Active
Project_Funding	7138899.0

ProjectID	1931
Program	Energy and Environment
Program Abbreviated	E&E
Sub_Program	Aviation Environmental Design Tool
Project Title	AEDT Prototypes and Legacy Development
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AEE, 800 Independence Ave SW, Washington DC
Manager POC	Lourdes Maurice/Mohan Gupta
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Performer Organization	ATAC
ProjectStatus	Active
Project_Funding	5381301.0

ProjectID	1928
Program	Energy and Environment
Program Abbreviated	E&E
Sub_Program	Aviation Environmental Design Tool
Project Title	AEDT Prototypes and Legacy Development
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AEE, 800 Independence Ave SW, Washington DC
Manager POC	Lourdes Maurice/Mohan Gupta
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Performer Organization	CSSI
ProjectStatus	Active
Project_Funding	2594287.0

ProjectID	1932
Program	Energy and Environment
Program Abbreviated	E&E
Sub_Program	Aviation Emissions
Project Title	AEROMOD Evolution
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AEE, 800 Independence Ave SW, Washington DC
Manager POC	Lourdes Maurice/Mohan Gupta
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Performer Organization	Volpe National Transportation Systems Center
Performer_Address	55 Broadway Cambridge, MA 02142
Performer POC	Clay Reherman
ProjectStatus	Active
Project_Funding	37000.0

ProjectID	2085
Program	NextGen
Program Abbreviated	NextGen
Project Title	AIRE Procedures and Test Demo
Sponsor	FAA
Manager	Federal Aviation Administration

Performer_Address	55 Broadway Cambridge, MA 02142
Performer POC	Clay Reherman
ProjectStatus	Unavailable
Project_Funding	Unavailable

ProjectID	1658
Program	Centers of Excellence
Program Abbreviated	CoE
Sub_Program	Airliner Cabin Environment / Research in the Intermodal Transport Environment
Project Title	ASHRAE Ozone Pesticide
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AAM-5, Rm 328, 800 Independence Ave, SW Washington DC 20591
Manager POC	Charles Ruehle
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Performer Organization	Univeristy of Medicine and Dentistry of NJ
Performer POC	Weisel
ProjectStatus	Completed
Start_Date	07/10/2007
End_Date	06/30/2009
Project_Funding	125000.0

ProjectID	1371
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Sub_Program	Policy and Planning
Project Title	Addressing Uncertainty about Future Airport Activity Levels in Airport Decision Making

Abstract

Forecasts of airport activity levels are essential to airport planning and financing decisions. In recent years, however, the ability of traditional forecast techniques to produce reliable estimates has been a growing concern. There are numerous examples of situations where unforeseen events and developments have had a significant effect on realization of airport development plans. Many parameters essential for preparation of air traffic forecasts (e.g., economic growth, fuel costs, and airline yields) have recently become more volatile. For example, the extreme fuel price rises experienced in 2008 led air carriers to cut air service. This price increase was followed by a sharp economic downturn which, in turn, put additional pressure on airline yields, traffic levels, and air carrier viability. In addition, concerns around shock events (e.g., terrorism or health pandemics) have magnified the degree of uncertainty involved in producing reliable air traffic forecasts. The effects of changing economic conditions on air cargo demand, airline mergers and bankruptcies, and airline decisions concerning routes and hubbing activities have also impacted the reliability of air traffic forecasts. The traditional approach to handling uncertainty has been to supplement base case forecasts with high- and low-case forecasts to account for a range of potential outcomes. This approach, however, provides only a cursory understanding of the risk profile and provides no detail on how unforeseen events and developments actually affect forecasts and resulting decisions. It is important to incorporate a comprehensive analysis of risks and opportunities into those airport management plans that rely on air traffic forecasts. In an operating environment subject

	to a great deal of uncertainty, airports need to generate and incorporate accurate measures of numerous factors (e.g., fuel prices, economic growth, and industry structure) in their long-term forecasts in support of physical and financial planning. An effective and systematic analysis framework will assist airport managers in meeting this requirement.
Project Link	http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=2803
Sponsor	FAA
Manager	Transportation Research Board
Manager Office/Address	The National Academies, 500 Fifth Street NW, Washington, DC 20001
Manager POC	Goldstein, Lawrence
Performer Organization	InterVISTAS Consulting
Performer POC	Tretheway, Michael
ProjectStatus	Active
Start_Date	07/15/2010
End_Date	01/14/2012
Project_Funding	350000.0

ProjectID	1647
Program	Centers of Excellence
Program Abbreviated	CoE
Sub_Program	Advanced Materials
Project Title	Advanced Materials & Manufacturing Training Innovation Center (AMMTIC)
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AJP-6340, WJHTC Bld 210, AC Airport, Atlantic City NJ 08405
Manager POC	Curtis Davies
Manager POC - phone	(609) 485-8758
Manager POC - email	curtis.davies@faa.gov

Performer Organization	Edmonds Community College
Performer POC	Mosier
ProjectStatus	Completed
Start_Date	09/12/2008
End_Date	06/30/2010
Project_Funding	463000.0

ProjectID	1347
Program	Continued Airworthiness
Program Abbreviated	Airworthiness
Project Title	Advanced NDI Methods for Composite Structures
Sponsor	FAA
Manager	Federal Aviation Administration
Manager POC	Rusty Jones
Performer Organization	AJP-6360: Aircraft Systems & Structures Team
ProjectStatus	Unavailable
Project_Funding	Unavailable

ProjectID	1562
Program	Aviation Grants Program
Program Abbreviated	Aviation Grants
Project Title	Aging Aircraft Education and Training
Abstract	The purpose of this research effort is to provide greater awareness with the GA community of the safety risks associated with operating older airplanes and recommended actions to mitigate those risks.
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	Wm. J. Hughes Technical Center, Atlantic City Int'l Airport, NJ 08405
Manager POC	Abali, Felix

Manager POC - phone	609-485-7549
Performer Organization	Wichita State University
Performer_Address	1845 Fairmount Wichita, KS 67260
ProjectStatus	Active
Start_Date	09/02/2008
End_Date	08/31/2011
Project_Funding	296000.0

ProjectID	1563
Program	Aviation Grants Program
Program Abbreviated	Aviation Grants
Project Title	Aging Aircraft Issues for Structural Damages
Abstract	The purpose of the research is to support and enhance the safety goals of the FAA with respect to supporting the continued airworthiness of the US fleet. NIAR will conduct research contributing to the development of technologies, technical information, procedures, and practices, in order to help ensure the continued airworthiness of aircraft structures in the fleet.
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	Wm. J. Hughes Technical Center, Atlantic City Int'l Airport, NJ 08405
Manager POC	Abali, Felix
Manager POC - phone	609-485-7549
Performer Organization	Wichita State University
Performer_Address	1845 Fairmount Wichita, KS 67260
ProjectStatus	Active
Start_Date	08/22/2007
End_Date	08/19/2011
Project_Funding	100000.0

ProjectID	1648
Program	Centers of Excellence
Program Abbreviated	CoE
Sub_Program	Advanced Materials
Project Title	Aging of Composite Aircraft Structures
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AJP-6361, WJHTC Bld 210, AC Airport, Atlantic City NJ 08405
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Performer POC	Tomblin
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Performer POC - email	john.tomblin@wichita.edu
ProjectStatus	Completed
Start_Date	08/27/2004
End_Date	11/30/2010
Project_Funding	960000.0

ProjectID	1564
Program	Aviation Grants Program
Program Abbreviated	Aviation Grants
Project Title	Aiding Aircraft Research Infrastructure of the National Institute for Aviation Research

Abstract	The purpose of this effort is to provide federal dollars in support of new research and test facilities and equipment. It is through research and the application of new technology in aerodynamics, materials, structures, sensors, and safety that the U.S. will be able to maintain its leading position in aviation in the 21st century.
Project Link	http://www.tc.faa.gov/logistics/grants/doc/08-G-008.doc
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	Wm. J. Hughes Technical Center, Atlantic City Int'l Airport, NJ 08405
Manager POC	Abali, Felix
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Performer Organization	Wichita State University
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Performer POC	Tomblin, John
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ProjectStatus	Completed
Start_Date	07/31/2008
End_Date	01/31/2010
Project_Funding	340000.0

ProjectID	1650
Program	Centers of Excellence
Program Abbreviated	CoE
Sub_Program	Airliner Cabin Environment / Research in the Intermodal Transport Environment
Project Title	Air Contamination Measurement Methods
Sponsor	FAA
Manager	Federal Aviation Administration

Manager Office/Address	AAM-5, Rm 900W, 800 Independence Ave, SW Washington DC 20591
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Performer POC	Jones
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ProjectStatus	Active
Start_Date	05/12/2008
End_Date	12/31/2011
Project_Funding	75000.0

ProjectID	1649
Program	Centers of Excellence
Program Abbreviated	CoE
Sub_Program	Commercial Space Transportation
Project Title	Air and Space Traffic Consideration
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AST-4, Rm 325, 800 Independence Ave, SW Washington DC 20591
Manager POC	Ken Davidian
Manager POC - phone	(202) 267-7214
Manager POC - email	ken.davidian@faa.gov
Performer Organization	Florida Institute of Technology
Performer POC	Samuel T. Durrance
ProjectStatus	Active
Start_Date	04/08/2011
End_Date	12/31/2011
Project_Funding	89486.0

ProjectID	1862
Program	Commercial Space Transportation
Program Abbreviated	Commercial Space
Sub_Program	Integration & Operations
Project Title	Air and Space Traffic Control Considerations for Commercial Space Transportation
Abstract	1. Interview FAAs ATC Procedures specialists and solicit anticipated problems caused by launch and recovery operations. Sort and categorize problems, concerns and possible solutions. 2. Interview FAA Tech Center airspace test personnel and solicit their requirements for developing launch and recovery airspace research. Formalize their requirements and integrate them into the work plan.
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AST, 800 Independence Ave SW, Washington DC
Manager POC	Ken Davidian
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Performer Organization	Florida Institute of Technology
Performer POC	Durrance, Sam
ProjectStatus	Unavailable
Project_Funding	113000.0

ProjectID	1651
Program	Centers of Excellence
Program Abbreviated	CoE
Sub_Program	VAF
Project Title	Airborne Network Security Simulator

Sponsor	FAA
Manager	Federal Aviation Administration
Manager POC	Charles Kilgore
Performer Organization	Washington State University
Performer POC	Dr. Ravi Pendse
ProjectStatus	Active
Start_Date	05/16/2011
End_Date	12/31/2012
Project_Funding	15000.0

ProjectID	1652
Program	Centers of Excellence
Program Abbreviated	CoE
Sub_Program	Airliner Cabin Environment / Research in the Intermodal Transport Environment
Project Title	Aircraft Recirculation Filter for Air Quality and Incident Assessment
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AAM-5, Rm 900W, 800 Independence Ave, SW Washington DC 20591
Manager POC	Jean Watson
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Manager POC - email	jean.watson@faa.gov
Performer Organization	Kansas State University
Performer POC	Eckels
ProjectStatus	Active
Start_Date	12/21/2005
End_Date	12/31/2011
Project_Funding	410928.0

ProjectID	1372
Program	Airport Cooperative Research Program

Program Abbreviated	ACRP
Sub_Program	Environment
Project Title	Aircraft Taxi Noise Database for Airport Noise Modeling

Abstract

FAAs Integrated Noise Model (INM) is the agencys required tool for NEPA-related studies and also for FAR Part 150 Noise Compatibility Studies. The transition of INM into the Aviation Environmental Design Tool (AEDT) is a prime example of the commitment of FAA to improve aviation environmental assessment computational capabilities. The AEDT program will achieve an important milestone in integrating FAA legacy tools and improving on their accuracy and functional capability to assess airport noise. For instance, improvements include changes in acoustic, emissions, and performance modeling capabilities, as well as improvements to noise-power-distance (NPD) curves, lateral attenuation algorithms, and relative-humidity absorption. ACRP recently contributed a key improvement to the set of available noise modeling tools as reported in the recently published ACRP Web-Only Document 9: "Enhanced Modeling of Aircraft Taxiway NoiseScoping. The objective of this scoping project was to determine the best way to model airport noise from aircraft taxi operations and, based on that assessment, to create a plan for implementing a taxi noise prediction capability into INM in the short term and AEDT in the longer term. One study outcome revealed that the primary weakness for taxi noise modeling is related to a definition of engine source noise characteristics, including level, spectra, and directivity. In fact, there is no direct noise database for taxiing operations. Within the current INM/AEDT models, source noise is obtained through an approximate extrapolation of NPD data. For long-term requirements, the study suggested that additional measurements be made for taxi operations to obtain synchronized noise and engine operating

parameters which can then be used to determine noise sensitivity at low thrust settings and allow a realistic evaluation of break-away thrust impact. This approach would require a considerable field measurement effort with extensive coordination with cooperating airlines. A short-term solution to the problem, suggested in the ACRP Web-Only Document 9, is to develop a noise, spectral class, and directivity database for a nominal taxi state by processing existing measurement data [e.g., data from ACRP "Web-Only Document 9; data from a study conducted at Madrid Barajas International Airport, Aircrafts Taxi Noise: Sound Power Level and Directivity Frequency Band Results, C. Asensio, I. Pavón, M. Ruiz, R. Pagán, M. Recuero, Universidad Politénica de Madrid, Grupo de Investigación en Instrumentación y Acústica Aplicada (I2A2), INSIA Ctra. Valencia km 7, 28031 Madrid, Spain; and data from other available sources]. As a follow-up to this effort, the next step is to fully populate a taxi noise database for input to INM/AEDT. It is not feasible, however, to acquire the necessary data for all the aircraft types found in the INM database. Efforts are therefore needed to derive a method(s) that would allow extrapolation of noise levels associated with higher thrust levels to those relevant to taxi conditions. This method would enable taxi conditions of current and future aircraft to be included in INM/AEDT. Should this method prove unsuccessful, then a modest measurement program should be undertaken to record a sufficient number of taxi operations to develop statistically valid source characteristics for aircraft commonly in use. The resulting database would remove the gap in the current INM noise database and allow for much improved taxi noise estimates.

Project Link	http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=2798
Sponsor	FAA
Manager	Transportation Research Board
Manager Office/Address	The National Academies, 500 Fifth Street NW, Washington, DC 20001
Manager POC	Goldstein, Lawrence
Performer Organization	Wyle Laboratories, Inc
Performer POC	Page, Juliet
ProjectStatus	Active
Start_Date	06/11/2010
End_Date	10/11/2011
Project_Funding	150000.0

ProjectID	1939
Program	Energy and Environment
Program Abbreviated	E&E
Sub_Program	CLEEN
Project Title	Aircraft Technology Maturation
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AEE, 800 Independence Ave SW, Washington DC
Manager POC	Lourdes Maurice/Mohan Gupta
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Manager POC - email	Lourdes.Maurice@faa.gov / Mohan.L.Gupta@faa.gov
Performer Organization	Pratt and Whitney
ProjectStatus	Active
Project_Funding	737983.0

ProjectID	1937
Program	Energy and Environment
Program Abbreviated	E&E
Sub_Program	CLEEN
Project Title	Aircraft Technology Maturation
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AEE, 800 Independence Ave SW, Washington DC
Manager POC	Lourdes Maurice/Mohan Gupta
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Performer Organization	General Electric
ProjectStatus	Active
Project_Funding	1.1095626E7

ProjectID	1935
Program	Energy and Environment
Program Abbreviated	E&E
Sub_Program	CLEEN
Project Title	Aircraft Technology Maturation
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AEE, 800 Independence Ave SW, Washington DC
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Manager POC - email	Lourdes.Maurice@faa.gov / Mohan.L.Gupta@faa.gov
Performer Organization	Rolls Royce

ProjectStatus	Active
Project_Funding	1.0576999E7

ProjectID	1936
Program	Energy and Environment
Program Abbreviated	E&E
Sub_Program	CLEEN
Project Title	Aircraft Technology Maturation
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AEE, 800 Independence Ave SW, Washington DC
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Manager POC - fax	202-267-5594
Manager POC - email	Lourdes.Maurice@faa.gov / Mohan.L.Gupta@faa.gov
Performer Organization	Boeing
ProjectStatus	Active
Project_Funding	6736691.0

ProjectID	1938
Program	Energy and Environment
Program Abbreviated	E&E
Sub_Program	CLEEN
Project Title	Aircraft Technology Maturation
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AEE, 800 Independence Ave SW, Washington DC
Manager POC	Lourdes Maurice/Mohan Gupta
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Manager POC - email	Lourdes.Maurice@faa.gov / Mohan.L.Gupta@faa.gov
Performer Organization	Honeywell
ProjectStatus	Active
Project_Funding	2914800.0

ProjectID	1653
Program	Centers of Excellence
Program Abbreviated	CoE
Sub_Program	General Aviation
Project Title	Airframe Technology Assessment of Airworthiness of Unmanned Aerial Systems Load Spectrum
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	AJP-6250,
Manager POC	Vu, T
Performer Organization	Wichita State University
Performer_Address	1845 N Fairmount, Box 93, Rm 218, Wichita, KS 67260-0093
Performer POC	Tomblin
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ProjectStatus	Completed
Start_Date	11/03/2008
End_Date	08/28/2010
Project_Funding	100000.0

ProjectID	1373
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Sub_Program	Administration

Project Title	Airport Capital Improvements: Developing a Cost-Estimating Model and Database

Abstract

Airport capital investment needs are approaching $20 billion dollars annually, based on a 2009 ACI-NA capital needs survey. Working to meet this need, individual airports, state and local agencies, and the FAA are dependent on individual case-by-case engineering cost studies and the bid process when estimating, planning, and budgeting for airport capital improvement projects. The engineering, planning, and finance staffs at airports may not always have sufficient project development experience or sufficient information to prepare valid capital cost estimates. In fact, many smaller airports do not have staff to perform these functions and must, as a result, rely on external consulting expertise. In addition, there is insufficient consistency, standardization, and accuracy across the airport industry to compare project cost estimates that result from variations in regional costs, state and local conditions, or levels of technical expertise. Moreover, unique conditions at any given airport make simple comparison with similar projects at other airports often difficult if not problematic. Airports; state, regional, and local agencies; and FAA may not appreciate the options and choices implicit in various designs and their tradeoffs, or have an independent way to benchmark the work of their consultants. Further, airport sponsors need consultants and/or staff that are well versed in current market conditions and emerging innovations. Experience also indicates that increased availability of relevant data can facilitate the capital budgeting process and improve overall project cost estimating, project planning, and implementation, resulting in a more efficient and effective approach to developing an airport capital improvement program

Project Link	http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3026
Sponsor	FAA
Manager	Transportation Research Board
Manager Office/Address	The National Academies, 500 Fifth Street NW, Washington, DC 20001
Manager POC	Goldstein, Lawrence
Performer Organization	MCR Federal
Performer POC	Karlsson, Joakim
ProjectStatus	Active
Start_Date	07/13/2011
End_Date	03/13/2013
Project_Funding	400000.0

ProjectID	1565
Program	Aviation Grants Program
Program Abbreviated	Aviation Grants
Project Title	Airport Concrete Pavement Technology Program
Abstract	Foster continued improvement in concrete pavement technology by preserving, rehabilitating, and enhancing the existing system. The intent is to ensure that through funding of these efforts concrete pavement will continue to meet evolving airport needs.
Sponsor	FAA
Manager	Federal Aviation Administration
Manager Office/Address	Wm. J. Hughes Technical Center, Atlantic City Int'l Airport, NJ 08405
Manager POC	Agrawal, Satish
Performer Organization	Innovative Pavement Research Foundation
Performer_Address	Falls Church VA
ProjectStatus	Active
Start_Date	01/08/2011
End_Date	10/28/2011

Project_Funding	1.293E7
ProjectID	1374
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Sub_Program	Design
Project Title	Airport Curbside and Terminal-Area Roadway Operations

Abstract	Efficient landside operations are critical to an airport's success. Key elements of an airport's landside operations are the curbside where travelers and their baggage enter and exit the terminal and the terminal-area roadways that allow private and commercial vehicles access to the curbside. Travelers expect safer and more efficient landside operations even as volumes increase, but the design and capacity of the curbside zone are usually constrained by the terminal building, as well as the proximity of on-airport landside infrastructure. Well-defined and consistent performance measures would allow airport operators to better evaluate their current landside operations and possible improvements. Unfortunately, the well-established methods of calculating level of service in the Highway Capacity Manual (HCM) do not properly reflect conditions at airports. In addition to not covering the unique curbside situation, the traffic composition at an airport--ranging from highly skilled bus, van, and taxi drivers who are familiar with the network to highly stressed private auto drivers that are not familiar with the network's design--are very different from those used to develop the HCM procedures. Traveler expectations regarding operational conditions are also likely to be quite different from those on an arterial street. The objective of this project is to develop a guide to analyze the operation of the airport curbside and the terminal-area roadways, including the effects of direct access points (e.g., on-airport commercial parking, rental car operations, and hotels).
Project Link	http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=151
Sponsor	FAA
Manager	Transportation Research Board

Manager Office/Address	The National Academies, 500 Fifth Street NW, Washington, DC 20001
Performer Organization	Jacobs Consultancy
Performer POC	Mandle, Peter
ProjectStatus	Completed
Start_Date	01/10/2007
End_Date	05/09/2010
Project_Funding	400000.0
Links to Project Reports	http://onlinepubs.trb.org/onlinepubs/acrp/acrp_rpt_040.pdf

ProjectID	1375
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Sub_Program	Environment
Project Title	Airport Ground Support Equipment (GSE) Inventory and Emission Reduction Strategies

Abstract

Increased levels of demand at airports in the United States have resulted in a growth in surface congestion and an associated increase in airport surface emissions. This problem is likely to worsen with the projected future increase in air transportation. Efforts are underway to decrease surface congestion. Local air quality and global climate change concerns, regulatory pressures, and the desire to be environmentally responsible have resulted in a growing number of airport programs around the United States to assess and reduce airport emissions. Although much is known about aircraft fleets, operations, and emissions, comparatively little is known about aircraft ground support equipment (GSE), a major part of airport ground operations and infrastructure and a manageable emissions source. What national GSE data are available are outdated and unreliable. Accurate GSE data are needed by the FAA and airport sponsors to plan adequately and to balance the growing air quality demands of the international community, States, regulatory agencies, and communities with the need for future airport system improvements. Although airport expansion plans to enhance system capacity in order to meet the increased demand may decrease delays and mitigate surface congestion, they will most likely exacerbate the problem of surface emissions. On the other hand, proactive strategies that limit surface emissions may help airports. This research intends to determine the locations and status of the most successful programs to limit or decrease emissions. Research will (1) identify operational approaches that have been implemented at various airports around the nation to reduce non-aircraft surface emissions and also implications of these

	approaches on LTO aircraft emissions; (2) examine the intended and realized benefits of these approaches within the context of present conditions and future aviation growth projections; and (3) develop strategies to address identified gaps or challenges. This project will also initiate a comprehensive and accurate GSE inventory to help the airport-industry assess the contribution of GSE to air quality impacts at airports. This information is critical to improved understanding and planning for future opportunities to convert conventionally fueled equipment (i.e., gasoline and diesel) to cleaner technology using alternative fuels. This information will be collected on an aggregated level to support national goal-setting, policymaking, and incentives-based low-emission programs, while protecting the proprietary interests of GSE owners and operators, including air carriers, FBOs, and ground handling companies. Note: Preparing an accurate and comprehensive inventory will require cooperation with third-party GSE owners and operators to undertake the labor-intensive process of identifying, categorizing, and inventorying GSE at airports across the country and putting into place a mechanism to ensure the accuracy of the data collected. Such voluntary support from GSE owners and operators may be difficult to obtain, given the current economic climate and limited resources available to devote to this volunteer effort.
Project Link	http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=2787
Sponsor	FAA
Manager	Transportation Research Board
Manager Office/Address	The National Academies, 500 Fifth Street NW, Washington, DC 20001

Manager POC	Schatz, Theresia
Performer Organization	CDM
Performer POC	Pehrson, John
ProjectStatus	Active
Start_Date	06/08/2010
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ProjectID	1376
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Sub_Program	Human Resources
Project Title	Airport Leadership Development Program
Abstract	Future airport leaders require a deeper understanding of current issues and critical concerns as seen from the top of an airport organization. There are few low-risk settings where airport executives can exercise self-evaluation of leadership and decision-making skills with a group of their peers and mentors, and further develop the business acumen needed to direct public- and private-sector organizations in the airport industry. Airport leadership development programs exist in the industry but many have broader goals or present fundamental knowledge to entry-level executives. Research is needed to assist existing and future airport leaders to assess, obtain, and refine their individual leadership skills. Such programs exist in other industries and participants frequently derive long-lasting resource relationships from contact with other participants and instructors that will benefit continued growth. Moreover, such experiences and the skills that are developed are often portable throughout the industry.

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Sponsor	FAA
Manager	Transportation Research Board
Manager Office/Address	The National Academies, 500 Fifth Street NW, Washington, DC 20001
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Performer Organization	Ohio State University
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ProjectStatus	Active
Start_Date	09/29/2010
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ProjectID	1377
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Sub_Program	Policy and Planning
Project Title	Airport Passenger Conveyance System Usage/Throughput

Abstract	With air traffic and passenger demand continuing to grow, capacity will continue to be an issue at existing, expanding, and new airport facilities. In addition, the cost of new construction continues to increase, placing a premium on optimization of existing space and planning of new facilities. Peak-period demand accommodating both origin and destination flights as well as connections, both domestic and international, creates complex terminal design requirements affecting passenger circulation through all areas of an airport. The objective of this research is to prepare a comprehensive guidebook that will serve as a decision-support tool for planning, designing, and evaluating passenger conveyance systems at airports. The scope of this research should examine how passenger conveyance systems operate and provide service to different areas within the airport environment. For the purpose of this research project, passenger conveyance components include, but are not limited to, escalators, elevators, moving walkways, wheelchairs, and passenger assist vehicles/carts. Research should not include Automated People Mover systems (covered under other ACRP research projects), Personal Rapid Transit systems, and shuttle bus systems; however, it should include passenger conveyance system interface with components of the overall airport circulation system. Passengers are defined as any individual using the conveyance system.
Project Link	http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=2106
Sponsor	FAA
Manager	Transportation Research Board

Manager Office/Address	The National Academies, 500 Fifth Street NW, Washington, DC 20001
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Performer Organization	Trans Solutions, LLC
ProjectStatus	Active
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ProjectID	1378
Program	Airport Cooperative Research Program
Program Abbreviated	ACRP
Sub_Program	Design
Project Title	Airport Passenger Terminal Planning Guidebook

Abstract

Changes in technology, industry structure, and airline operations are having a profound effect on the numerical factors and concepts that go into the planning and design of airport passenger buildings. Specifically, (a) security screening requirements have altered passenger flows and the desirability of locating commercial activities beyond the security checkpoints; (b) electronic check-in, both in terminal and before arrival at the airport, are totally changing requirements for the public counter and back office space for the check-in process; (c) the growth of low-cost carriers is having a strong effect on the criteria for design, in terms of level of service standards and space configurations desired by the airline customers; and (d) the newer pattern of quick turn-arounds for aircraft, which increases the use of each gate, is increasing the space requirements beyond check-in, as more people have to be accommodated in the gate areas in any given period.

The planning and design for the new JetBlue terminal at New York/Kennedy airport illustrates these points. The increased pressure for low-cost terminals accentuates the importance of proper airport terminal planning.

Planners and designers for all sizes of airports are struggling with how to make passenger terminals that provide good value and level of service efficiency that meet the criteria of the new range of stakeholders in airport terminals (e.g., TSA, low-cost carriers, concessionaires) and the new range of security and electronic procedures. Up-to-date, practical information is needed that not only can address the current issues but will provide the flexibility to

accommodate emerging trends and issues.

Often airport managers, public officials, and planners do not necessarily have the breadth of knowledge or experience about the many factors, nuances, and alternatives to be considered in planning and designing an airport passenger terminal. This is especially true at smaller agencies with limited staff. It would be useful for them to have a guidebook that can be used when planning and designing the various components of a passenger terminal. This guidebook would facilitate discussion during the planning process and allow an airport manager to ask an airport planner or designer Has this possibility been addressed? or to respond to public inquiries such as, Did you think of this idea?

An FAA document on the subject, Planning and Design Guidelines for Airport Terminal Facilities (AC 150/5360-13) was prepared in 1988. Airport passenger terminal planners and designers need up-to-date information on how to provide good value and efficiency to meet needs of stakeholders and accommodate changing technologies, materials, regulations, and operational factors for both large and small airports.

The objective of this project was to produce an Airport Passenger Terminal Planning Guidebook. The guidebook includes sections (a) describing the airport passenger terminal planning process and (b) identifying current and future issues, trends, impacts, and solutions in airport passenger terminal planning.

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Performer Organization	Landrum & Brown
Performer POC	Anderson, Bruce
ProjectStatus	Completed
Start_Date	06/29/2007
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Links to Project Reports	http://onlinepubs.trb.org/webmedia/trbmedia/AM2009/761and/softvnetplayer.htm